

IN THE CLAIMS:

Amend claim 1 as indicated on the enclosed copy of claim 1 bearing the heading "**AMENDED CLAIM**"

A substitute page 32 comprising a clean copy of claim 1 as amended is enclosed.

REMARKS

In response to the May 15, 2003 Office Action, Applicants have amended claim 1 to more specifically define the reduced tip mounting and ejection force pipette tip and pipette tip mounting shaft combination comprising their invention. In this regard, claim 1 has been amended to more clearly define the lateral support feature of the mounting shaft which aids in producing the desired reduced tip mounting and ejection forces.

Specifically, amended claim 1 emphasizes the difference between the outer diameter of the substantially cylindrical lateral support zone on the outer surface of the pipette tip mounting shaft and the inner diameter of the substantially lateral support region on the inner surface of the pipette tip. As specified in amended claim 1, the diameter difference results in a space between the lateral support zone and region. The space created by the claimed dimensional difference insures against the development of friction and sealing forces by the lateral support zone and region which would inherently increase the pipette tip mounting and ejection forces hand generated by a pipette user during the mounting of the pipette tip on and the ejection of the pipette tip from the mounting shaft.

Applicants respectfully submit that Williams does not anticipate or render obvious claim 1 as amended. Specifically, there is no friction free spacing of a substantially cylindrical of a lateral support zone from a mating substantially cylindrical lateral support region taught or suggested by Williams. To the contrary, Williams discloses and clearly teaches that the outer surface 279 of the pipette tip mounting shaft ("pipette 17") contacts the alignment or guide ring 274. In fact, as stated in column 7, lines 57-59, "If desired, this alignment ring can be sized to sealably engage the pipette as well and thus provide a double seal." Clearly, Williams teaches that the diameter of the outer surface 279 of the pipette tip mounting shaft ("pipette 17") is at least equal to and preferably greater than the inner diameter of the alignment or guide ring 274.

Further, there is no teaching in Williams of a friction free space between a lateral support zone on a pipette tip mounting shaft and a mating lateral support region on the inner surface of a pipette tip. In that regard, Applicants respectfully submit that the portions of surface 279 of the pipette tip mounting shaft (17) above and below the point of contact with the alignment ring 274 referred to by the Examiner **can not function as lateral support zones**. As is clearly shown in Williams, such portions of the surface 279 are prevented by the alignment ring 274 and the seal ring 272 from functioning as lateral support zones for the pipette tip 221,223. Specifically, the rings 272 and 274 prevent a rocking of the tip 221,223 on the pipette tip mounting shaft (17) and thereby

preclude the portions above and below the contact point of the alignment ring 274 and the surface 279 from functioning as lateral support zones.

Absent any teaching or suggestions of the claimed friction free spacing more clearly defined in amended claim 1, Applicants submit that claim 1 is not anticipated by or rendered obvious by Williams. Certainly, any addition of Brysch does overcome the deficiencies of Williams in these regards.

Accordingly, Applicants submit that claim 1 as amended defines invention over all art of record and should be allowed. Such action is earnestly solicited.

Respectively submitted,



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"AMENDED CLAIM"

1. In combination with a pipette tip including substantially cylindrical and axially spaced inner surface regions defining an annular sealing region and an annular lateral support region having predetermined inner diameters, a pipette tip mounting shaft comprising:

an axially elongated body for axially receiving the pipette tip, the axially elongated body comprising

a proximal end portion for support by a pipette to extend axially therefrom,

a distal end remote from the proximal end portion,

a substantially cylindrical outer surface region on the axially extending body adjacent the distal end and defining an annular sealing zone for mating with the annular sealing region within the pipette tip to form an air-tight seal between the shaft and the tip, and

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a substantially cylindrical outer surface region on the axially elongated body axially spaced from the annular sealing zone and defining an annular lateral support zone having an outer diameter slightly less than the inner diameter of the substantially cylindrical lateral support region on the inner surface of the pipette tip as to space the lateral support zone from the lateral support region and thereby minimize mounting and ejection forces generated by a pipette user in mounting the tip on and ejecting the tip from the shaft.